

YOUR
LETTERS

MAILBOX

Hot topics this month include raging infernos and blowtorches. Some of you are burning up over environmental issues, while our star letter chills us out with talk of cool TFTs

★ Star Letter It's a shame about rays



I am concerned that Mike Bedford's 'Green Computing Guide' (*Shopper* December 2006) could alarm users of cathode ray tube (CRT) monitors. There was an oblique reference to CRTs having an electron gun at the rear of the tube firing electrons at your face. The article then went to say that this is no longer an issue as flat-faced monitors are so prevalent.

The electron stream emitted from the cathode of a CRT monitor will travel only in a vacuum. Since we do not live in a vacuum, it is impossible for them to reach our faces, even if the electrons could find a way through the glass (which they can't). I hope your readers will be reassured that they will not be zapped while sitting in front of a working CRT.

The stream of electrons emitted from a CRT's cathode is accelerated toward the inside face of the CRT and deflected and modulated to create the image visible. This applies whether the CRT is flat-faced or otherwise. To prevent a build-up of electrons on the inside of the screen (as they have to go somewhere), a rubber-capped 'final anode' is connected to the glass envelope of the CRT, which provides an escape path for the electrons.

Some people are worried about headaches being caused specifically by CRT displays. I've visited many companies with brightly lit open-plan offices and I'm not surprised at the incidences of eyestrain prevalent in these places.

As a radar engineer, may I suggest that readers try dimming the room lighting in the area of the PC monitor. We do the same in most radar control rooms to make viewing more comfortable. The CRT brilliance can be turned down and the

contrast also adjusted if necessary. This reduces glare, lessens the possibility of eyestrain and can extend the working life of the CRT. Ask any air traffic controller.

I realise that TFTs are deemed cool and a fashionable must-have, but I doubt there is a TFT monitor that can match the crisp definition of a CRT at every possible resolution. Mike Bedford also stated that CRTs are the preferred medium with many media people due to their colour accuracy. Considering the increasing number of people venturing into home photo and video editing, perhaps some future space could be allocated to a CRT monitor Labs test.

Incidentally, a recent report suggested that as CRTs use less power than TFT displays, they are more environmentally friendly.

W Welstead

We entirely agree that people who use CRT monitors have nothing to fear from the electron gun. What we actually said was, "Those big CRTs had an electron gun sitting at the back of the tube firing electrons directly at your face. This is no longer an issue as flat-panel monitors are so prevalent." It was intended to highlight an old-fashioned concern regarding CRTs but we seem to have ended up perpetuating it. Sorry about that.

Using a CRT monitor can generate headaches not only because of poor office lighting but also because of the way in which the monitor's refresh rate has been set up. For example, as you increase the resolution of a video signal, the speed at which the CRT display updates can drop. This speed is called the refresh rate and if it drops below around 72Hz, your eyes start to struggle with the subtle flickering. This flickering can cause eyestrain, which in turn results in headaches.

While many people in the media still use CRT displays, most *Shopper* readers will be better off with LCD monitors, which are usually cheaper, lighter and take up less desk space. The availability of CRT monitors suitable for domestic use has reduced in recent years, although you can still find 17" models for around the same price as a 15" LCD monitor. A 17" CRT provides approximately the same viewable area as that provided by a 15" LCD.

In terms of power consumption, all the studies that we're aware of show that LCDs use considerably less power than CRTs. A regular figure quoted by manufacturers claims that LCD screens use 30 per cent less power than CRTs. However, a study undertaken by Cornell University in 2003 showed that LCDs can reduce energy consumption by 60 per cent compared to CRTs. This is mainly because LCDs generate less heat.



▲ Don't worry if you've got a CRT monitor on your desk - it's not firing electrons at your face

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BURNING ISSUE



Fortunately, my PC has failed only twice, and both times a backup prevented permanent loss of important data. Others won't be so lucky, and with the ever-increasing amount of information individuals now store on their PCs – such as family photos – this is clearly an important topic.

Numerous manufacturers are cashing in, offering a bewildering choice of solutions. To help formulate a backup plan, all we need to do is ask ourselves one simple question: what is the worst-case scenario?

I would suggest that, in most households, the answer to this question is a house fire. In a major fire all your computer equipment, external hard disks, removable media and backups will all go up in smoke, including receipts for purchased items that many insurance companies ask for when processing a claim. Some people may store this information electronically, but if your data is gone it's a pointless exercise.

Surely one good solution is to back up to a DVD or a small external disk and keep it in a fire-proof box designed to protect not just paper but also data.

Phil

Planning for the worst-case scenario is sensible, but there are other factors you need to take into account before you iron-clad your home office. Two of the most important are the cost of replacing your data and the cost of the protection you want to use.

For example, VCR tapes containing irreplaceable home movies might be priceless to you, but discovering the cost of a good fire safe capable of protecting magnetic tape might make you rethink how priceless your tapes really are.

Fire-proof safes come with different levels of protection. Some protect paper, which means that they can maintain an internal temperature of lower than 177°C for a specified period of time. The cheapest safes manage half an hour, while more expensive ones can manage between one and three hours.

While paper will survive at up to 177°C (although it may discolour), data in the form of magnetic disks or tape will become corrupt at this sort of temperature. Data safes need to keep their internal temperatures down to a maximum of 52°C.

An alternative approach is to store copies of your data at another location. You could use online backups, a self-storage facility or do as one of the more paranoid members of the *Shopper* team does and rent a safety deposit box at your local high street bank. This can be very cheap, although costs may vary between banks and their branches.

If your critical files are small, you could even keep encrypted versions on a USB flash drive in your pocket, perhaps as a key chain. Check regularly that it still works, as they can become corrupt after a period of years.

ANOTHER BURNING ISSUE



I would like to thank Simon Edwards for his tip on making hard disks unreadable with a blowtorch in *Rants and Raves*, *Shopper* December 2006.



▲ Don't try this at home, folks, unless you want to destroy all your data for good

It works fine on CD and DVD discs as well. I got rid of 20 data CDs in less than a minute using his method. There is no need to use a brick; just hold one edge in the flame for a few seconds.

Tony Fisher

Personal privacy issues mean that, while sometimes we want to protect our data from fire and other threats, occasionally we need to destroy it, too. Reports that organised criminals here and abroad target old hard disks in an effort to steal credit card details and other personal information illustrate the need for caution.

The method of disk destruction that Simon discussed was designed to cremate the platters of a hard disk using a blowtorch and a couple of bricks to prevent the heat damaging the work surface. CDs and other optical media are much less heat resistant than metal platters and should melt or ignite easily, without the need for MAPP gas or other fuels that reach very high temperatures.

If any kiln-owning readers have experience of melting down their hard disks, and possibly recasting the molten metal as something else, please let us know.

MULTIFUNCTION MUDDLE



Simon Handby's Labs test of multifunction peripherals ('Multiple Choice', *Shopper* January 2007) commented that the HP OfficeJet 6310 can be used over the network or via USB. He stated that "the scanner produces more detail when connected by USB" when scanning at the same resolution. Surely this is balderdash

and piffle. Are the ones and zeros sent over USB more 'one and zeroish' than when sent over the network? Is the network cable so thin that fewer colours fit through? Do the pixels get mishled (a technical term provided by my three-year-old daughter) more when netted?

Graham Macrae

You are quite right that data can be transferred as reliably over a network as over a USB interface, but the quality of the HP's results with networks scans was lower.

When scanning over the network, HP's TWAIN software makes a single rapid scan, which serves to provide both the preview and final image. When scanning over USB, the software makes a rapid low-resolution scan for the preview image. After the user makes selections for resolution, crop region and so on, the software makes a more detailed final scan, resulting in a higher-quality final image.

We assume that the lower-resolution network scan happens in order to reduce network traffic and prevent slow network scans, but weren't able to get confirmation of this from HP. If you increase the resolution of network scans you get bigger files but no proportional improvement in quality, suggesting that the driver is interpolating the lower-resolution preview image – as we stated in the review.

STRANGER SPAM



I've recently started receiving spam, having been an email user for about three years. The thing I can't



▲ HP's OfficeJet 6310 transferred data over a network that was a bit "mished"



WRITE IN AND WIN!

STAR
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HP has kindly agreed to provide its award-winning HP DeskJet 5940 inkjet printer to this month's Star Letter writer. This smart-looking colour printer will do a good job of just about any task you throw at it, and it will do it fast.

It can take a six-ink cartridge for printing realistic photos and the cost per page is one of the lowest we've seen. With plenty of strengths and no major weaknesses, the 5940 has been on our 'Also consider...' list since its first review. It's the perfect all-rounder, and that's why we awarded it Best Inkjet Printer in our 2006 awards.



PLUS!

Every letter-writer who provides their address also receives a Computer Shopper mug



understand is, although it ends up in my inbox, half the time it hasn't been sent to my correct address, but to an address similar in some ways but containing many different letters.

How can this be, and how can I stop it? Should my ISP (Tiscali) stop it? I run Kaspersky Anti-Virus, and the free Zone Alarm firewall, although recently without support as I am running Windows Me.

James Brolly

There are a few reasons why you might receive spam that appears to have been sent to a different email address from the one you use. Possibly the spammer has sent an email to a made-up address, which is the address you can see, and has sent you a copy using a blind CC (BCC), which hides your address and the addresses of anyone else on the BCC list.

There are other possible explanations. If you have your own domain name, such as brolly.co.uk, you can opt to have email sent to any address at brolly.co.uk to your inbox. For example, james@brolly.co.uk will arrive, as will mail to fred@brolly.co.uk and unfortunately asnjowre89@brolly.co.uk.

This makes it easy for spammers to generate random email addresses and send them out. We recommend that you don't use this catch-all option for your email. If you are worried that someone will misspell your name, add a few likely entries to accept common misspellings.

Alternatively, some ISPs provide email services that use so-called subdomains. These allow you to use any name you like as part of your email address. An example would be simon@robinsnest.isp.co.uk, where robinsnest

is the account name and simon is an arbitrarily chosen name. The same problems exist with this system as when running a catch-all system with your own domain. Unfortunately, most ISPs won't let you reject any messages destined for a valid subdomain.

Increasingly ISPs are taking responsibility for the spam that annoys their users. Even if your ISP doesn't provide a spam-blocking feature (yours does, though at an extra cost), some add indicators in the email header. You can set up your email software to look for these headers and filter out the spam automatically. However, you'll still have to download the annoying messages.

For more information on how and why spammers operate, read Jon Thompson's 'Can Your Spam!' feature in *Shopper* December 2006.



◀ Mini-ITX PCs such as Shuttle's X100 use far less power than conventional desktop computers

POWER CRAZY



I want to ask if anyone knows why PC manufacturers are not making many power-saving PCs.

I have owned a few notebooks over the years, the most recent being a Toshiba L20 197, which I have upgraded to a notebook with a 1.4GHz Pentium Mobile processor. I noticed it was able to do all the things my Pentium 4 desktop computer could, apart from play the latest games due to the integrated graphics chipset. This shows that desktop PCs waste a huge amount of power.

The notebook required only around 65W and, even if you take into account the super-fast notebooks with flash video cards in them, I'm sure they do not need more than 160W, and that's for an Alienware notebook.

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MacBiter Your condolences

Last month we reported the sad news that Tony Tyler, one of *Shopper's* longest-serving writers and author of the MacBiter column, had become ill and died at the end of October. This month a great number of you have written in with touching messages, expressing your regret at his passing and wishing his loved ones well.

Many of you experienced "genuine sadness" for the passing of a man you'd never met but felt you knew through his writing. For some, reading each month's MacBiter column was like a "regular meeting with an old friend". Our thanks to everyone who sent in their condolences. We have passed your messages on to Tony's family.

My current PC has a 350W power supply and, thanks to *Shopper*, I know the power supply has to get more than that amount of power to supply the PC with what it needs.

I know the hard disks in a PC use more power, as does the memory. But why? Why can they not do the same on desktop PCs as they do in laptops? Most new PC power supplies I have seen are 550W. I would like a PC that uses a tenth of that!

P Johnson

A desktop PC uses more power than a notebook, but there is a huge difference between the real power consumption of a PC and its power supply rating. Even though a high-end desktop power supply may have a rated output of 550W, when at idle or under low load it will draw only around 75W. Using a PC power supply's maximum-rated wattage to determine how much power the computer actually uses is about as accurate as looking at the highest figure on a car's speedometer to determine the car's typical speed.

Desktop power supplies need to be able to provide so much power as when everything in a PC is running at full load it may momentarily draw close to its supply's maximum-rated wattage. Sometimes all the components want to draw a large amount of power at once. A good power supply will have enough power in reserve to cope with these peaks in power usage and, if you have several hard disks, a powerful processor and a couple of graphics cards, you will need a large amount of power at times. Bear in mind that most desktop PCs are also far quicker at performing processor-intensive tasks such as video encoding and running 3D games than notebooks, so they need more power.

Manufacturers are taking steps to reduce the amount of power a PC needs. Intel's Core 2 Duo range, for example, is based on a notebook processor and uses far less power than the Pentium 4 range it replaces. If you are interested in running a low-powered PC, investigate Mini-ITX systems. These typically use very low-powered processors, notebook disk drives and very quiet fans, or sometimes no fan at all. 

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